✓ **Congratulations! You passed!**

Grade received 90%   **Latest Submission Grade** 90%   **To pass** 80% or higher   [**Go to next item**]

1. What does the analogy "AI is the new electricity" refer to?   **1 / 1 point**

   ⦿ Similar to electricity starting about 100 years ago, AI is transforming multiple industries.

   ◯ AI is powering personal devices in our homes and offices, similar to electricity.

   ◯ AI runs on computers and is thus powered by electricity, but it is letting computers do things not possible before.

   ◯ Through the "smart grid", AI is delivering a new wave of electricity.

   [⤢ Expand]

   ✓ **Correct**
   Yes. AI is transforming many fields from the car industry to agriculture to supply-chain...

2. Which of the following are reasons that didn't allow Deep Learning to be developed during the '80s?   **1 / 1 point**

   ☐ People were afraid of a machine rebellion.

   ☑ Interesting applications such as image recognition require large amounts of data that were not available.

   > ✓ **Correct**
   > Yes. Many resources used today to train Deep Learning projects come from the fact that our society digitizes almost everything, creating a large dataset to train Deep Learning models.

   ☐ The theoretical tools didn't exist during the 80's.

   ☑ Limited computational power.

   > ✓ **Correct**
   > Yes. Deep Learning methods need a lot of computational power, and only recently the use of GPUs has accelerated the experimentation with Deep Learning.
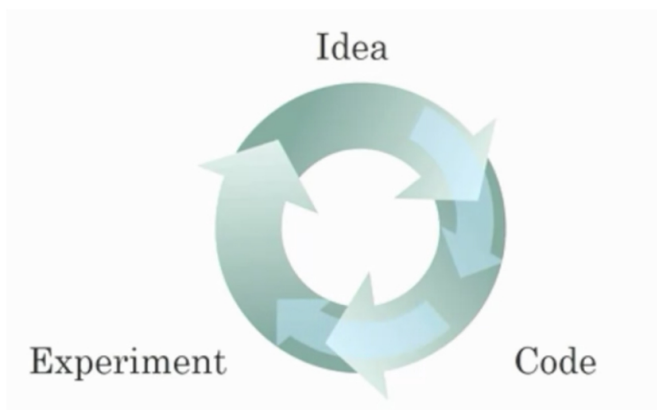
   [⤢ Expand]

   ✓ **Correct**
   Great, you got all the right answers.

3. Recall this diagram of iterating over different ML ideas. Which of the statements below are true? (Check all that apply.)   **1 / 1 point**

   ☐ It is faster to train on a big dataset than a small dataset.

   ☑ Recent progress in deep learning algorithms has allowed us to train good models faster (even without changing the CPU/GPU hardware).

   > ✓ **Correct**
   > Yes. For example, we discussed how switching from sigmoid to ReLU activation functions allows faster training.

☑ Faster computation can help speed up how long a team takes to iterate to a good idea.

✓ **Correct**
Yes, as discussed in Lecture 4.

☑ Being able to try out ideas quickly allows deep learning engineers to iterate more quickly.

✓ **Correct**
Yes, as discussed in Lecture 4.

[⤢ Expand]

⊘ **Correct**
Great, you got all the right answers.

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4. When experienced deep learning engineers work on a new problem, they can usually use insight from previous problems to train a good model on the first try, without needing to iterate multiple times through different models. True/False?

1 / 1 point

⦿ False

◯ True

[⤢ Expand]

⊘ **Correct**
Yes. Finding the characteristics of a model is key to having good performance. Although experience can help, it requires multiple iterations to build a good model.

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5. ReLU stands for which of the following?

1 / 1 point

◯ Rectified Last Unit

⦿ Rectified Linear Unit

◯ Representation Linear Unit

◯ Recognition Linear Unit

[⤢ Expand]

⊘ **Correct**
Correct, ReLU stands for Rectified Linear Unit.

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6. Features of animals, such as weight, height, and color, are used for classification between cats, dogs, or others. This is an example of "structured" data, because they are represented as arrays in a computer. True/False?

1 / 1 point

⦿ True
Yes. The data can be represented by columns of data. This is an example of structured data, unlike images of the animal.

◯ False
No. The data can be represented by columns of data. This is an example of structured data, unlike images of the animal.

[⤢ Expand]

⊘ **Correct**

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7. A dataset is composed of age and weight data for several people. This dataset is an example of "structured" data because it is represented as an array in a computer. True/False?

1 / 1 point

⦿ True

◯ False

[⤢ Expand]

⊘ **Correct**

8. Why is an RNN (Recurrent Neural Network) used for machine translation, say translating English to French? (Check all that apply.)

1 / 1 point

- ☑ It is applicable when the input/output is a sequence (e.g., a sequence of words).

  ✓ **Correct**
  Yes. An RNN can map from a sequence of english words to a sequence of french words.

- ☐ RNNs represent the recurrent process of Idea->Code->Experiment->Idea->....

- ☐ It is strictly more powerful than a Convolutional Neural Network (CNN).

- ☑ It can be trained as a supervised learning problem.

  ✓ **Correct**
  Yes. We can train it on many pairs of sentences x (English) and y (French).
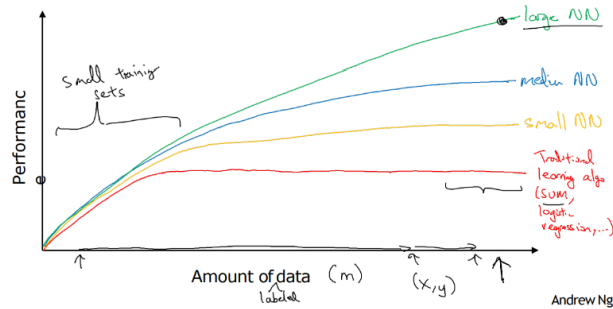
⤢ **Expand**

⊘ **Correct**
Great, you got all the right answers.

9.

1 / 1 point

From the given diagram, we can deduce that Large NN models are always better than traditional learning algorithms. True/False?
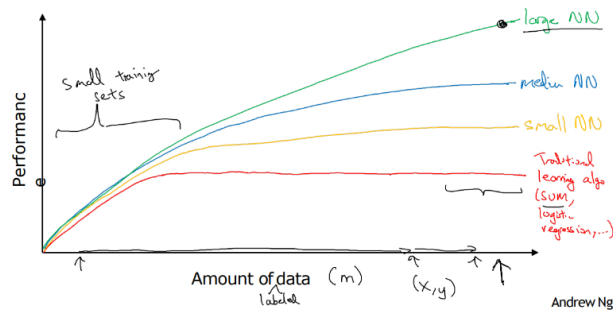
- ◉ False
- ○ True

⤢ **Expand**

⊘ **Correct**
Yes, when the amount of data is not large the performance of traditional learning algorithms is shown to be the same as NN.

10. Assuming the trends described in the figure are accurate. Which of the following statements are true? Choose all that apply.

0 / 1 point

☑ Increasing the training set size of a traditional learning algorithm always improves its performance.

> ❗ **This should not be selected**
>
> No. After a certain size, traditional learning algorithms don't improve their performance.

☐ Decreasing the training set size generally does not hurt an algorithm's performance, and it may help significantly.

☑ Increasing the training set size of a traditional learning algorithm stops helping to improve the performance after a certain size.

> ✓ **Correct**
>
> Yes. After a certain size, traditional learning algorithms don't improve their performance.

☑ Increasing the size of a neural network generally does not hurt an algorithm's performance, and it may help significantly.

> ✓ **Correct**
>
> Yes. According to the trends in the figure above, big networks usually perform better than small networks.

[⤢ Expand]

> ⊗ **Incorrect**
>
> You chose the extra incorrect answers.

☑ Increasing the training set size of a traditional learning algorithm stops helping to improve